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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/815,586 | 03/23/2001 | Vladimir Levantovsky | OAQ-019 | 5569 |

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| EXAMINER |
|---|
| LAMB, TWYLER MARIE |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2622 | |

DATE MAILED: 05/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on <u>24 November 2004</u>.

2a)☒ This action is **FINAL.** 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle,* 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) <u>1-27</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-27</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

# DETAILED ACTION

## *Response to Arguments*

1.      Applicant's arguments, see Amendment, filed 11/24/04, with respect to the

rejection(s)of claim(s) 1-26 under 35 U.S.C. 102(b) have been fully considered and are

persuasive.  Therefore, the rejection has been withdrawn.  However, upon further

consideration, a new ground(s) of rejection is made in view of Dhong et al. (Dhong) (US

5,959,656).

## *Claim Rejections - 35 USC § 102*

1.      The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2.      Claims 1-26 are rejected under 35 U.S.C. 102(b) as being anticipated by Dhong

et al. (Dhong) (US 5,959,656).

With regard to claims 1 and 14, Dhong discloses a printing system (Figure 8,

laser printer), comprising: a print engine (printer engine {laser beam printer motor} 860)

for printing at a native resolution (col 7,lines 12-16; col 10, lines 43-46); a bitmap for at

least a portion of an image at a higher resolution (col 7, lines 16-20; col 10, lines 43-46),

wherein said higher resolution is higher than the native resolution (which reads on the

resolution being enhanced by the resolution enhancement circuit of the laser printer)

(col 7, lines 8-20; col 10, lines 43-46); and a processing unit (resolution enhancement

circuit 820) for processing the bitmap using a window structure to generate a modulated

control signal for controlling the print engine to produce a printed output that simulates

the higher resolution (col 7, line 20 – col 8, line 9).

With regard to claims 2 and 15, Dhong discloses wherein the higher resolution is

at least twice the native resolution of the printing system (col 10, lines 38-46).

With regard to claims 3 and 16, Dhong discloses wherein the printing system is a

laser printer (Figure 8, laser printer; col 7, lines 8-11).

With regard to claims 4 and 17, Dhong discloses wherein the printing system

modulates a laser beam to print the bitmap at the higher resolution (col 7, line 8 – col 8,

line 9).

With regard to claims 5 and 18, Dhong discloses wherein the window structure is

comprised of a plurality of elements assigned in a matrix (col 7, line 39 - col 8, line 9).

With regard to claims 6 and 19, Dhong discloses wherein the window structure is

a 3 x 4 matrix arrangement (the MxM matrix can be any combination matrix M being an

integer) (col 23, lines 30-43).

With regard to claims 7 and 20, Dhong discloses wherein each of the elements in

the matrix is assigned a weighted value (col 8, lines 10-51).

With regard to claim 8, Dhong discloses wherein the matrix exhibits a row

relationship such that a sum of a summation of weighted values in a second row of the

matrix and a summation of weighted values in a third row of the matrix are

approximately equal to two times a sum of a summation of weighted values in a first row

of the matrix with a summation of weighted values in a fourth row of the matrix (col 10, line 38 –col 11, line 9).

With regard to claim 9, Dhong discloses wherein the matrix exhibits a row symmetrical relationship such that the summation of the weighted values of the second row is approximately equal to the summation of the weighted values of the third row of the matrix and the summation of the weighted values of the first row is approximately equal to the summation of the weighted values of the fourth row of the matrix (col 8, line 29 – col 23, line 43).

With regard to claim 10, Dhong discloses wherein the matrix exhibits a coefficient symmetrical relationship such that a summation of weighted values in a second column if the matrix is approximately equal to a sum of a summation of weighted values in a first column of the matrix with a summation of weighted values in a third column of the matrix (col 8, line 29 – col 23, line 43).

With regard to claim 11, Dhong discloses wherein the matrix exhibits a coefficient relationship such that the summation of weighted values of the first column of the matrix is approximately equal to the summation of weighted values of the third column (col 8, line 29 – col 23, line 43).

With regard to claim 12, Dhong discloses wherein the matrix exhibits a diagonal relationship where diagonal elements in the matrix are constrained to their respective row and coefficient relationships (col 8, line 29 – col 23, line 43).

With regard to claim 13, Dhong discloses wherein the matrix exhibits a relationship wherein any arrangement in the window should not generate weighted

values equal to the row, coefficients, and diagonal relationships (col 8, line 29 – col 23, line 43).

With regard to claim 21, Dhong discloses wherein the matrix exhibits a row relationship such that a sum of a summation of weighted values in a first row of the matrix and a summation of weighted values in a fourth row of the matrix are approximately equal to two times a sum of a summation of weighted values in a second row of the matrix with a summation of weighted values in a third row of the matrix (col 8, line 29 – col 23, line 43).

With regard to claim 22, Dhong discloses wherein the matrix exhibits a row symmetrical relationship such that the summation of the weighted values of the second row is approximately equal to the summation of the weighted values of the third row of the matrix and the summation of the weighted values of the first row is approximately equal to the summation of the weighted values of the fourth row of the matrix (col 8, line 29 – col 23, line 43).

With regard to claim 23, Dhong wherein the matrix exhibits a coefficient relationship such that a summation of weighted values in a second column if the matrix is approximately equal to a sum of a summation of weighted values in a first column of the matrix with a summation of weighted values in a third column of the matrix (col 8, line 29 – col 23, line 43).

With regard to claim 24, XXX discloses wherein the matrix exhibits a coefficient symmetrical relationship such that the summation of weighted values of the first column

of the matrix is approximately equal to the summation of weighted values of the third

column.

With regard to claim 25, Dhong discloses matrix exhibits a diagonal relationship

where diagonal elements in the matrix are constrained to their respective row and

coefficient relationships (col 8, line 29 – col 23, line 43).

With regard to claim 26, Dhong discloses wherein the matrix exhibits a

relationship wherein any arrangement in the window should not generate weighted

values equal to the row, coefficients, and diagonal relationships (col 8, line 29 – col 23,

line 43).

3.      Claims 27 is rejected under 35 U.S.C. 102(b) as being anticipated by Smith et al.

(Smith) (US 5,657,430).

With regard to claim 27, Smith discloses a printing system (Figure 1, laser printer

10), comprising: an input image data having a first resolution (col 4, lines 4-8); a

processing unit (CPU 14) for processing the input image data using a weighted window

structure to produce an output image data having a second resolution (col 4, lines 4-23),

wherein the first resolution is higher than the second resolution (col 4, lines 4-8; col 4,

lines 57-65); a modulator for modulating a control signal for controlling a print engine to

produce a printed output based on the output image data (col 5, lines 16-32; col 5 lines

43-51).

### Conclusion

4.      Applicant's amendment necessitated the new ground(s) of rejection presented in

this Office action.  Accordingly, **THIS ACTION IS MADE FINAL**.  See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37

CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the date of this final action.
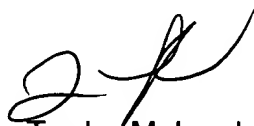

5.      Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Twyler M. Lamb whose telephone number is 571-272-

7406. The examiner can normally be reached on M-Thurs 6:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Edward L. Coles can be reached on 571-272-7402. The fax phone number

for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the

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you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

Twyler M. Lamb
Primary Examiner
Art Unit 2622